

Assessing Iowa stream uses

As the DNR works to bring Iowa's water quality standards into compliance with the federal Clean Water Act, it is assigning designated uses to each stream and river in Iowa. This assessment process is all part of establishing new goals and levels of protection for Iowa's water.



Recent rulemaking and 2006 legislative action have brought the DNR's water quality rules towards compliance with federal Clean Water Act requirements and U.S. Environmental Protection Agency (EPA) regulations, establishing new levels of protection for water quality.

As an outcome of these efforts, all 26,000 miles of Iowa's perennial (flowing year-round) streams are initially protected at the highest levels for recreation and aquatic life uses. These actions provide initial protection for many miles of perennial streams that were previously not designated for one or both of the aquatic life or recreational uses before.

"Water quality standards are essentially the goals for Iowa's waters," said Adam Schnieders, a DNR environmental specialist. "Use designations are one part of the standards, and they help us categorize water bodies by what they're used for – recreation, aquatic life, drinking water or a combination of those. These designated uses help direct the level of protection afforded to a water body."

Under these new rules, it is presumed that all perennial streams and rivers are attaining the highest level of recreation and aquatic life uses and should be protected for things such as fishing and swimming. This concept of assigning all perennial streams the highest use designation, unless assessments show that the stream does not deserve that level of protection, is referred to as the "rebuttable presumption."

"Assuming that all our streams should be protected for swimming and fishing places a high value on our streams. It also ensures the safety of Iowans that use our streams, and the aquatic life that live in our streams," said Rich Leopold, director of the DNR. "Assessing these streams is in the best interest of our citizens, our natural resources and our state's infrastructure."

Included in the federal regulations are the provisions that allow for scientific analysis of these "presumed" recreational and aquatic life uses. An integral part of implementing the new rules is verifying that a stream is capable of supporting the presumed uses.

WHAT ARE UA/UAA'S?

The concept of Use Assessment and Use Attainability Analysis (UA/UAA) is being applied by the DNR as a step-by-step process to gather site-specific field data on stream features and uses. The DNR then assesses available information to determine if the "presumed" recreational and aquatic life uses are appropriate.

The DNR has elected to evaluate any newly designated stream that receives a continuous discharge from a facility with a National Pollutant Discharge Elimination System (NPDES) permit. Prior to issuing a NPDES permit for an affected facility, the DNR will complete a UA/UAA for the receiving stream or stream network.

As part of the UA/UAA process, regulated entities or adjacent landowners along a stream can provide the DNR comments on the assessment. To assist, the DNR has developed a public database that provides access to any posted UA/UAA's. This database includes all supporting documents and maps, and is located at www.iowadnr.gov/water/uaa.html.

The EPA defines Use Attainability Analysis as a "structured scientific assessment of the factors affecting the attainment of the use which may include physical, chemical, biological, and economic factors as described in 131.10(g)."

WHAT DOES “DESIGNATED USE” MEAN?

Segments of streams and rivers in Iowa each have specific designations, based on what they are used for – like recreation, such as swimming or fishing; drinking water; or maintaining a healthy population of fish and other aquatic life. The series of rules that specify what uses should be protected is commonly called the DNR’s water quality standards. A more complete description can be found at www.iowadnr.gov/water/standards/

The “presumed” use rule associated with the UA/UAA process assumed that the following Class A1 and Class B(WW-1) use designations, described below, were applicable for every stream or river, unless assessments show otherwise. The following is a brief description of these and other use designation noted in the standards.

Waterbody segments designated for recreational use are protected for uses that involve human contact with the water. Three types of recreational uses are:

- Class A1 - Primary contact recreational use:

The water’s recreation uses involve full body immersion with prolonged and direct contact with the water, such as swimming and water skiing.

- Class A2 - Secondary contact recreational use:

Water recreation uses involve incidental or accidental contact with the water, where the probability of ingesting water is minimal, such as fishing and shoreline activities.

- Class A3 - Children’s recreational use:

Water recreation uses where children’s activities are common, like wading or playing in the water. These waters are commonly located in urban or residential areas where the banks are defined and there is visible evidence of flow.

Warmwater waterbodies can also be designated to protect aquatic life, such as fish, plants and insects that live in and around the water. Streams that maintain flow throughout the year, or contain sufficient pooled areas during intermittent flow periods to maintain a viable aquatic community, can be designated for aquatic life uses for warmwater species. The three warmwater uses include:

- Class B(WW-1) - Typically large interior and border rivers and the lower segments of medium-size tributary streams capable of supporting and maintaining a wide variety of aquatic life, including game fish.

- Class B(WW-2) - Typically smaller, perennially flowing streams capable of supporting and maintaining a resident aquatic community, but lack the flow and habitat necessary to fully support and sustain game fish populations.

- Class B(WW-3) - Intermittent stream with non-flowing perennial pools capable of supporting and maintaining a resident aquatic community in harsher conditions. These waters lack the flow and habitat necessary to fully support and sustain a game fish population.

WHAT IS THE FIRST STEP?

The first step in the UA/UAA process is gathering field data along streams. This data, which details physical features of the stream and determines aquatic life and recreational uses happening in the waterbody, is collected at seasonal, normal stream flow conditions. Currently the DNR is gathering field data on streams and rivers that have a “presumed” use designation and receive a discharge from a NPDES-permitted wastewater treatment facility.

The DNR uses a scientifically based field procedure for the aquatic life assessment in warmwater streams and rivers. A separate procedure has been prepared to assess recreation uses in streams and rivers.

These two field assessment procedures are located on the DNR website at www.iowadnr.gov/water/uaa.html

WHAT STREAMS WILL BE ASSESSED?

The DNR is performing fieldwork downstream of any NPDES-permitted facility discharging treated wastewater to any streams with a new “presumed” use designation. This includes over 700 affected facilities primarily discharging to small headwaters and upper watershed streams. A working status of the UA/UAA activities for affected facilities is located at www.iowadnr.gov/water/uaa.html.

“We want to stress that this is a working log, and it’s subject to change as a facility’s status and associated work efforts may change,” said Schnieders.

The DNR has also developed a protocol to evaluate streams supporting coldwater aquatic life and potentially warranting a use designation. The DNR Fisheries Bureau is currently carrying out all coldwater aquatic life assessments.

WHO IS PREPARING THE UA/UAA?

Currently, the DNR has seven contract staff, in addition to DNR Water Resources Section staff, performing field assessments and preparing UA/UAA reports. However, any individual or group interested in the process can collect field data. It is important that technical guidelines be followed for consistency and validity purposes. Prior to initiating any field data collection work, Iowans should contact Adam Schnieders at 515/281-7049 or at Adam.Schnieders@dnr.state.ia.us.

WHEN WILL WORK BE COMPLETE?

Fieldwork began in late 2005 and will continue through 2007. As fieldwork is conducted, the DNR will prepare UA/UAA reports based on completed field work and post completed reports in the UA/UAA Database, located at www.iowadnr.gov/water/uaa.html.

As with any field investigation, favorable stream flows and weather conditions greatly influence the ability



These streams are examples of these stream designations:
 1. Class B(WW-2), aquatic life.
 2. Class A1, primary contact recreation use. 3. Class A2, secondary contact recreational use. 4. Class A3, children's recreational use. 5. Class B(WW-1), aquatic life, including game fish. 6. Class B(WW-3), aquatic life.

to gather appropriate and representative data. To date, conditions have been favorable to achieve the projected work schedule. The DNR anticipates limited fieldwork and report preparation in the future, as new wastewater treatment facilities are designed and constructed.

WHAT FOLLOWS THE COMPLETION OF A UA/UAA REPORT?

When a completed UA/UAA report is listed in the UA/UAA Database, it allows Iowans to review and comment on the report. Iowans can comment on the data, findings and recommended use designations on stream segments associated with affected facilities. The recommended warmwater aquatic life and/or recreational use designations for a receiving stream or river will be noted in each UA/UAA report in detail.

As specified by recent legislation, within 30 days of the UA/UAA posting, any regulated entity or adjacent property owner affected by the assessment can contact the DNR Director, Rich Leopold, or his designee, Lori McDaniel, in writing to meet and provide evidence regarding the posted UA/UAA. The following is an excerpt from the Iowa Code:

According to Iowa Code 455B.176A, “any regulated entity or property owner adjacent to the assessed stream segment aggrieved by such a determination may make a written request, within thirty days from the date the written determination of the appropriate use designation is made available to the public, for a meeting with the director or the director’s designee. A regulated entity or property owner adjacent to the assessed stream segment shall be allowed to provide evidence that the designation is not appropriate under the criteria as established in this subsection.”

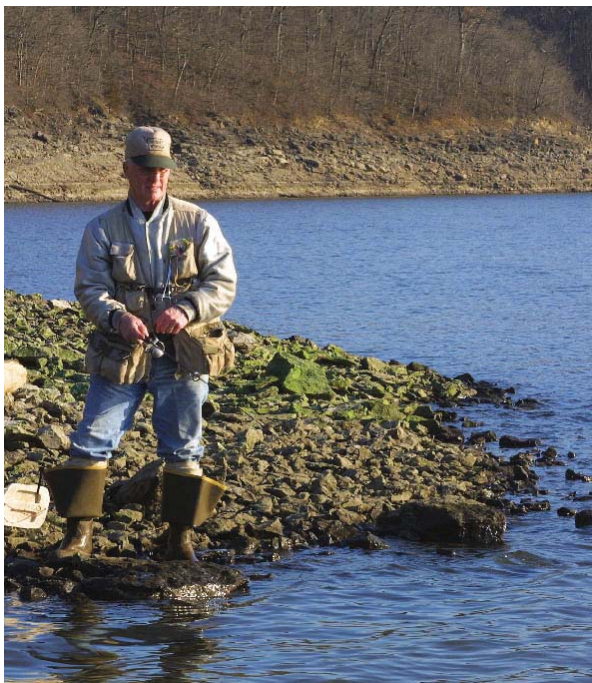
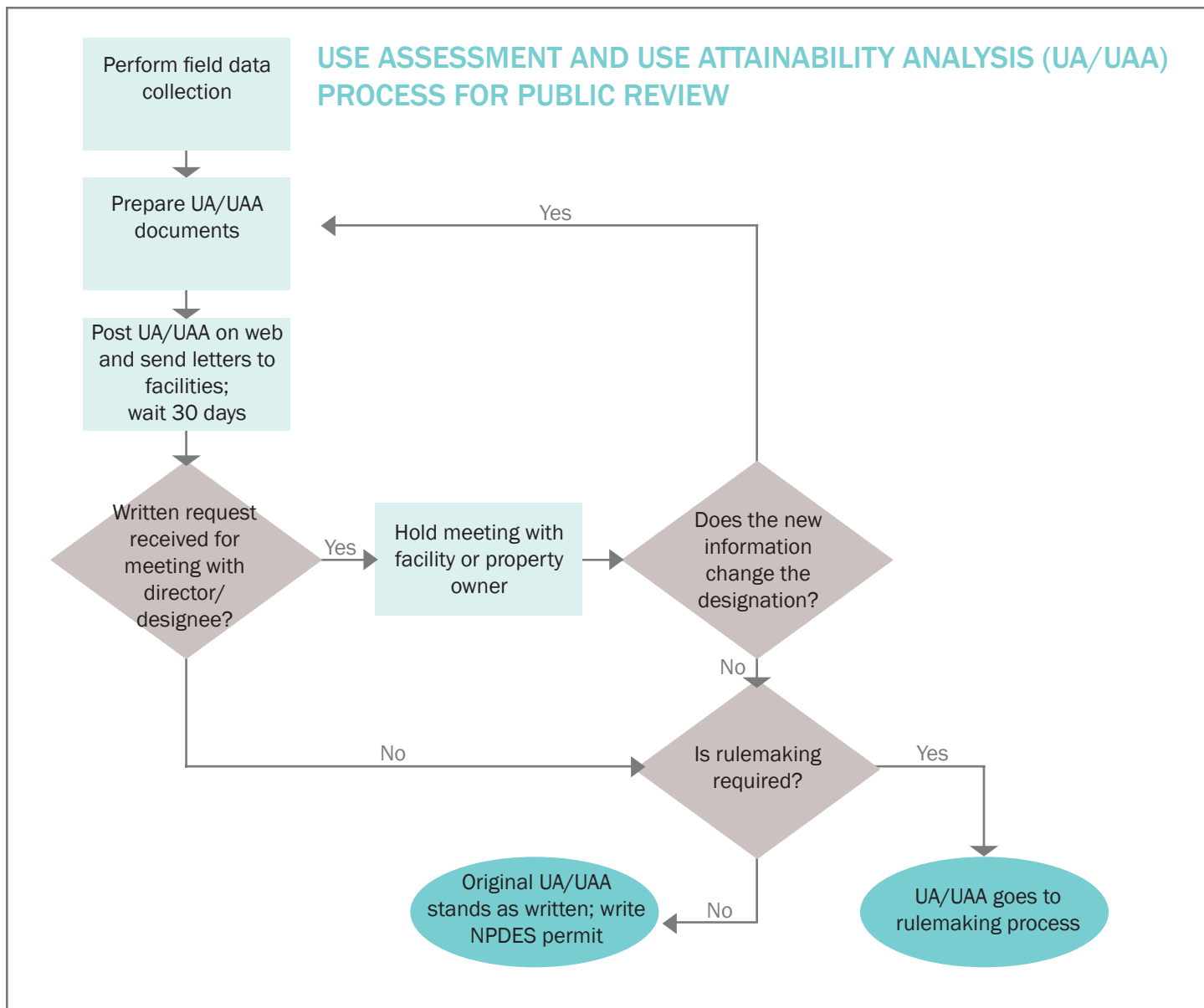
Leopold and McDaniel can be contacted in writing at: Iowa Department of Natural Resources, Wallace State

Office Building, 502 East 9th Street, Des Moines, Iowa, 50319-0034. The posting date and 30 day closing date is noted with each UA/UAA report in the UA/UAA Database.

After considering the provided evidence and applicable modifications to the recommended use designation, the DNR will begin formal rulemaking to incorporate amendments to the stream or river’s use designation. The DNR anticipates that groups of recommended stream use amendments will be assembled together for efficient rulemaking. Formal rulemaking is required because any amendment is a change in the waterbody’s use designation(s), which are specifically listed in DNR rules (IAB 455b, Chapter 61).

The rulemaking process includes a public notice published in the Iowa Administrative Bulletin and various public hearings across the state to receive written and oral comments. DNR staff will prepare a Responsiveness Summary of all comments received during the public notice period and post it on the DNR website at www.iowadnr.gov. Following the public notice process, the Environmental Protection Commission will take formal action on the rules and submit them to EPA for its formal approval. The entire UA/UAA posting to EPA approval process is expected to take 10 to 12 months.

If a stream or river’s recommended use designation needs to be modified, it will continue through the rulemaking process. If the findings determine that the “presumed” aquatic life and/or recreation uses are applicable for a stream, no rulemaking is required. If the findings verify that the assessed stream is only flowing intermittently (not perennially or with an intermittent flow with perennial pools), no rulemaking is required since this stream did not fall under the “presumed” aquatic life and/or recreation use rule. To fall under the rule, streams must have water year-round.



FOR MORE INFORMATION:

Adam Schnieders at (515) 281-7409 or
Adam.Schnieders@dnr.state.ia.us

DNR Web resources:

- DNR website:
www.iowadnr.gov
- Water quality standards:
www.iowadnr.gov/water/standards/
- Designated uses:
www.iowadnr.gov/water/standards/designated.html
- UA/UAA Database:
www.iowadnr.gov/water/uaa.html

Additional federal information and guidance on UA/UAA's can be obtained from section 2.7 of the EPA's handbook at:
www.epa.gov/waterscience/library/wqstandards/handbook.pdf